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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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## (PCT Article 36 and Rule 70)

Applicant's or agent's file reference 100447.13PCT	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US03/26137	International filing date (day/month/year) 20 August 2003 (20.08.2003)	Priority date (day/month/year) 20 August 2002 (20.08.2002)	
International Patent Classification (IPC) or national classification and IPC IPC(7): B 60 B 19/00, 37/00 and US Cl.: 301/6.91			
Applicant THERMAL STRUCTURES, INC.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand 19 March 2004 (19.03.2004)	Date of completion of this report 22 November 2004 (22.11.2004)
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Joseph Morano Signature Telephone No. 703-308-1113

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/US03/26137

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

the international application as originally filed.

the description:  
pages 1-6 as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_.

the claims:  
pages NONE, as originally filed  
pages 7, as amended (together with any statement) under Article 19  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_.

the drawings:  
pages 1-5 as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_.

the sequence listing part of the description:  
pages NONE, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_.

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

the language of publication of the international application (under Rule 48.3(b)).

the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

contained in the international application in printed form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4.  The amendments have resulted in the cancellation of:

the description, pages NONE

the claims, Nos. NONE

the drawings, sheets/fig NONE

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. STATEMENT

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-8</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-8</u>	NO
Industrial Applicability (IA)	Claims <u>1-8</u>	YES
	Claims <u>NONE</u>	NO

## 2. CITATIONS AND EXPLANATIONS

Claims 1, and 3-7 lack novelty under PCT Article 33(2) as being anticipated by Bennick. Bennick shows a wheel shield 10 having a curved outboard surface that is adapted to conform to an inboard surface 56 of a wheel 50. While Bennick does not explicitly state that the outboard surface of the shield 10 has a textured surface, it is inherent that the outer surface would be textured, be it a smooth texture, etc. The shield 10 includes a center opening 22 adapted to prevent the shield 10 from being sandwiched between a wheel 50 and hub when mounted on a vehicle. The shield 10 also includes a plurality of holes 24 positioned adjacent to the web 54 of a wheel 50 when the shield 10 is mounted to a vehicle, thus being adjacent to the wheel 50. The wheel shield 10 is fastened directly to the wheel 50 by bolts or screws passing through the plurality of hole 24 and into the web 54 of the wheel 50. The wheel 50 includes a web 54 with a plurality of holes (see Figure 2) passing therethrough, the web 54 being curved between the holes. The wheel shield 10 is positioned adjacent to the wheel 50 so that the wheel shield 10 blocks the holes in the web 54, the shield 10 and the solid portion of the web 54 forming at least one cavity, and at least one ventilation opening formed between the wheel 50 and wheel shield 10 between the cavity and an opening in the web 54.

Claims 2 and 8 lack an inventive step under PCT Article 33(3) as being obvious over Bennick in view of Bennett. Bennick does not show the outboard surface of the wheel shield having a plurality of ridges. Bennett teaches the use of a wheel shield 10 having a textured outboard surface having a plurality of ridges (see step 38 of Figure 4, and column 3, lines 44-51). Therefore one or ordinary skill in the art at the time of the invention would have found it obvious to provide a plurality of ridges on the textured surface of the wheel shield of Bennick for the purpose of increasing the aesthetic appearance of the wheel shield and increase the cooling rate of the wheel shield. Bennick as modified by Bennett does not specify a method of forming a wheel shield using a hydraulic press to cause a sheet of doubly corrugated material to conform to the shape of the inboard surface of a wheel. However it would have been obvious to one of ordinary skill in the art at the time of the invention to use a hydraulic press to form the wheel shield to the contour of a wheel as a substitute method than the roll forming method as taught by Bennett, dependent upon the equipment available during the manufacturing process.

Claims 1-8 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

----- NEW CITATIONS -----  
None